

**IN THE CLAIMS:**

Claims 1-86 (canceled)

Claim 87 (new): An animal feed composition comprising a particle, wherein such particle comprises alginate, a non-digestible polymer, and an emulsifier, and wherein the alginate comprises from about 0.5 to about 2.0 percent by wet weight of the particle, the total amount of polymer comprises from about 0.1 to about 6 percent by wet weight of the particle, and the emulsifier comprises a ratio to the non-digestible polymer from about 1:10 to about 10:1.

Claim 88 (new): The composition of claim 87, wherein the alginate comprises from about 0.5 to about 1.0 percent by wet weight of the particle.

Claim 89 (new): The composition of claim 88, wherein the alginate comprises about 1.0 percent by wet weight of the particle.

Claim 90 (new): The composition of claim 87, wherein the non-digestible polymer comprises from about 1.0 to about 4.0 percent by wet weight of the particle.

Claim 91 (new): The composition of claim 90, wherein the non-digestible polymer comprises about 2.0 percent by wet weight of the particle.

Claim 92 (new): The composition of claim 87, wherein the emulsifier and non-digestible polymer are present in an emulsifier to polymer ratio from about 1:5 to about 5:1.

Claim 93 (new): The composition of claim 92, wherein the emulsifier and non-digestible polymer are present in an emulsifier to polymer ratio from about 1:4 to about 2:1.

Claim 94 (new): The composition of claim 92, wherein the emulsifier and non-digestible polymer are present in an emulsifier to polymer ratio of about 1:2.

Claim 95 (new): The composition of claim 87, wherein the non-digestible polymer is chosen from poly(vinylpyrrolidone), poly(vinylalcohol), poly(ethylene oxide), cellulose,

cellulose derivatives, silicone, poly(hydroxyethylmethacrylate), modified starch and starch derivatives, high amylase starch, chitosan, xanthan gum, carrageenan, carboxymethyl cellulose, methylcellulose, guar gum, gum Arabic, glycogen, locust bean gum, acacia gum, and combinations thereof.

Claim 96 (new): The composition of claim 87, further comprising a bioactive agent or agents.

Claim 97 (new): The composition of claim 96, wherein the bioactive agent undergoes controlled release.

Claim 98 (new): The composition of claim 96, wherein the bioactive agent or agents are chosen from microbes, proteins, peptides, nucleic acids, hormones, drugs, antibiotics, enzymes, minerals, vitamins, antibodies, immunogens, microstructures, and nanostructures.

Claim 99 (new): The composition of claim 98, wherein the microbe is chosen from bacteria, yeast, and viruses.

Claim 100 (new): The composition of claim 99, wherein the microbe is chosen from *Bacillus* spp., *Bacillus licheniformis*, *Bacillus subtilis*, *Lactobacillus* spp., *L. bulgaricus*, *L. helveticus*, *L. plantarum*, *L. paracasei*, *L. casei*, *L. rhamnosus*, *Lactococcus* spp., *L. lactis*, *Alteromonas* spp., *A. media*, *Carnobacterium* spp., *C. divergens*, *Vibrio* spp., *V. alginolyticus*, *Pseudomonas* spp., *P. fluorescens*, *Streptococcus* spp., *S. lactis*, *S. thermophilus*, *Pseudoalteromonas* spp., *P. undina*, *Saccharomyces* spp., *S. cerevisiae*, *S. exiguus*, *Phaffia* spp., *P. rhodozoma*, *Pichia* spp., *P. pastoris*, *Kluyveromyces* spp., *K. aestuarii*, *K. marxianus*, and *K. yarrowii*.

Claim 101 (new): The composition of claim 98, wherein the protein is chosen from somatostatin, somatostatin derivatives, growth hormones, prolactin, adrenocorticotrophic hormone

(ACTH), melanocyte stimulating hormone (MSH), thyroid hormone releasing hormone (TRH), TRH salts, TRH derivatives, thyroid stimulating hormone (TSH), luteinizing hormone (LH), oxytocin, calcitonin, gastrin, secretin, pancreozymin, cholecystokinin, interleukins, thymopoietin, thymosin, thymostimulin, thymic factors, bombesin, neurotensin, lysozyme, protein synthesis stimulating peptides, vasoactive intestinal polypeptide (VIP), growth hormone releasing factor (GRF), and somatocrinin.

Claim 102 (new): The composition of claim 98, wherein the antibiotic is chosen from gentamicin, tetracycline, oxytetracycline, doxycycline, ampicillin, ticarcillin, cephalothin, cephaloridine, cefotiam, cefsulodin, cefmenoxime, cefmetazole, cefazolin, cefotaxime, cefoperazone, ceftizoxime, moxolactam, latamoxef, thienamycin, sulfazecin, and azthreonam.

Claim 103 (new): The composition of claim 87, wherein the composition is in a dry form.

Claim 104 (new): The composition of claim 87, wherein the composition is in a wet form.

Claim 105 (new): The composition of claim 87, wherein the particle size ranges from about 20  $\mu\text{m}$  to about 150  $\mu\text{m}$ .

Claim 106 (new): The composition of claim 87, wherein the particle size ranges from about 100  $\mu\text{m}$  to about 1 cm.

Claim 107 (new): The composition of claim 87, further comprising one or more bioattractant.

Claim 108 (new): The composition of claim 87, further comprising nutrients.

Claim 109 (new): The composition of claim 87, wherein the animal is human.

Claim 110 (new): The composition of claim 87, wherein the animal is a domestic animal.

Claim 111 (new): The composition of claim 87, wherein the animal is an aquatic animal.

Claim 112 (new): The composition of claim 111, wherein the animal is a fish.

Claim 113 (new): The composition of claim 111, wherein the animal is a mollusk.

Claim 114 (new): The composition of claim 111, where in the animal is a shrimp.

Claim 115 (new): The composition of claim 111, wherein the animal is a rotifer.

Claim 116 (new): The composition of claim 111, wherein the animal is *Artemia*.

Claim 117 (new): A method of producing an animal feed composition comprising a particle, wherein such method comprises (a) dissolving a non-digestible polymer in an alkaline solution, (b) adding an emulsifier, (c) adding a bioactive agent; and (d) atomizing the slurry resulting from (a)-(c), wherein the atomization produces a particle between about 10  $\mu\text{m}$  and about 10,000  $\mu\text{m}$  in size, and wherein the bioactive agent is microbound, viable, and bioavailable in a timed-release manner.

Claim 118 (new): A method of delivery of a bioactive agent or agents comprising providing a particle to an animal, such particle comprising alginate, a non-digestible polymer, an emulsifier, and one or more bioactive agent, wherein providing the particle delivers the particle to the animal.

Claim 119 (new): A method of delivering a particle produced by the method of claim 117 to an aquatic animal comprising producing the particle and feeding the particle to an aquatic animal, wherein the bioactive agent has a bioactive effect on the animal *in vivo*.

Claim 120 (new): The method of claim 117, wherein the bioactive agent is delivered to an aquatic animal.

Claim 121 (new): A particle comprising alginate, a non-digestible polymer, and an emulsifier.

Claim 122 (new): The particle of claim 121 further comprising one or more bioactive agent.